

REMARKS

Claims 1-20 were originally filed in the present application.

Claims 1-20 are pending in the present application.

Claims 1 and 11 were rejected in the February 7, 2006 Office Action.

Claims 2-10 and 12-20 were objected to in the February 7, 2006 Office Action.

No claims have been allowed.

No claims are amended herein

Claims 1-20 remain in the present application.

Reconsideration of the claims is respectfully requested in light of the following arguments.

The Applicants thank the Examiner for the indication that Claims 2-10 and 12-20 would be allowable if rewritten in independent form to incorporate all elements of their respective base claims and any intervening claims. Because the Applicants believe that the remaining claims in the application are allowable, the Applicant has not rewritten Claims 2-10 and 12-20 in independent form.

In Sections 2 and 3 of the February 7, 2006 Office Action, the Examiner rejects Claims 1 and 11 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,377,819 to Gesbert, et al. (hereinafter "*Gesbert*"). The Applicants respectfully traverse the rejection.

The Applicants direct the Examiner's attention to Claim 26, which contains the following unique and novel limitations:

1. For use in wireless network communications system comprising a base transceiver station having an adaptive antenna array and a mobile station having a first mobile antenna and a second mobile antenna, an apparatus for improving downlink performance of said adaptive antenna array of said base transceiver station, said apparatus comprising:

a spatial signature estimator associated with said base transceiver station, said spatial signature estimator operable to obtain a spatial signature from a signal received by said base transceiver station from said first mobile antenna and further operable to obtain a spatial signature from a signal received by said base transceiver station from said second mobile antenna; and

correlation circuitry coupled to said spatial signature estimator, said correlation circuitry operable to use spatial signatures obtained from said first mobile antenna and from said second mobile antenna to identify a least changing spatial signature and further operable to use said least changing spatial signature to obtain a downlink beamforming weight vector. (*Emphasis added*).

The Applicants respectfully submit that the above-emphasized limitations are not disclosed, suggested, or even hinted at in the *Gesbert* reference.

In rejecting Claim 1, the Examiner argued that the *Gesbert* reference discloses both the spatial signature estimator and the correlation circuitry recited in Claim 1 in Figure 6 and column 12, line 24, to column 13, line 29. The Applicants respectfully submit that the Examiner has mischaracterized the teachings of the *Gesbert* reference.

The passage relied upon by the Examiner is headlined at column 12, line 23, "Uplink-Base Transceiver Station." The passage describes the base transceiver station receiving uplink signals via N base station antennas. *See col. 12, lines 24-27*. The base transceiver station processes the N received signals to generate R reconstructed signals that approximate the information signals

originally sent by R remote transceivers. *See col. 12, lines 43-48.* To reconstruct the signals, the base transceiver station uses R base station signature vectors, each with N components—that is, each vector has one component for each base station antenna. *See col. 12, lines 49-51.* The vectors are selected to maximize base station reception quality. *See col. 12, lines 62-64.*

The Applicants respectfully submit that the portions of the *Gesbert* reference relied upon by the Examiner do not disclose, suggest, or even hint at the unique and novel limitations recited above in Claim 1. The cited passage contains no teaching of a base station obtaining first and second spatial signatures from signals received from first and second mobile station antennas, respectively. Instead, the passage teaches processing signals received from multiple base station antennas. Furthermore, the cited passage does not describe identifying a least changing spatial signature. Instead, the passage describes selecting a signature vector that maximizes base station reception quality. Finally, the cited passage does not teach using a spatial signature to obtain a downlink beamforming vector; instead the passage teaches using signature vectors to process uplink signals to generate reconstructed remote transceiver information signals.

In sum, the unique and novel limitations recited in Claim 1 are not disclosed, suggested, or even hinted at in the *Gesbert* reference. This being the case, Claim 1 presents patentable subject matter over the *Gesbert* reference. Also, Claims 2-10 depend from Claim 1 and contain all of the unique and novel limitations recited in Claim 1. Therefore, Claims 2-10 also are patentable over the *Gesbert* reference.

The Applicants respectfully assert that independent Claim 11 contains limitations that are analogous to the unique and novel limitations recited in Claim 1. This being the case, independent Claim 11 presents patentable subject matter over the *Gesbert* reference. Finally, Claims 12-20, which depend from Claim 11, contain all of the unique and novel limitations recited in Claim 11. Therefore, Claims 12-20 also are patentable over the *Gesbert* reference.

SUMMARY

For the reasons given above, the Applicants respectfully request reconsideration and allowance of the pending claims and that this application be passed to issue. If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Applicants respectfully invite the Examiner to contact the undersigned at the telephone number indicated below or at *jmockler@davismunck.com*.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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